REMARKS

Applicant respectfully requests reconsideration in view of the amendment and following remarks. The applicant has amended claim 1 as suggested by the Examiner.

Claims 1-3, 11, 12 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1-3, 11, 12 and 14-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1-3, 11, 12 and 14-26 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-14 of copending Application No. 10/381,501. Claims 1-3, 11, 12 and 14-26 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-14 of copending Application No. 10/381,502. Claims 1-3, 11, 12 and 14-26 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-31 of copending Application No. 10/663,290. Claims 1-3, 11, 12 and 14-26 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of Disch et al. U.S. Patent No. 6,306,940 ("Disch"). Claims 1-3, 11, 12-19 and 21-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Auerbach et al. U.S. Patent No. 4,666,995 ("Auerbach") taken with Paul et al. U.S. Patent No. 4,727,106 ("Paul") in view of Chapman et al. U.S. Patent No. 3,656,982 ("Chapman"), all newly cited and in view of Mück et al. U.S. Patent No. 5,994,455 ("Mück"), previously cited. The applicant respectfully traverses these rejections.

35 U.S.C. 112, Second Paragraph Rejections

Claims 1-3, 11, 12 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1-3, 11, 12 and 14-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The applicant has amended claim 1 and changed the term "made from" to "which comprises".

The Examiner asserted that VDA is not a recognized standard in the U.S. VDA is a well recognized standard known to one of ordinary skill in the art. See for example see the following US publications and issued patents:

1. U. S.20050143518 which states,

> The odoriferous behavior was evaluated according to the recommendations of the Verband der Automobilindustrie e.V. (*VDA*) for determining the odoriferous behavior of materials used in vehicle interiors, dated October 1992 (*VDA* 270 C3 smell test, see Kraftfahrwesen e.V. (DKF) documentation, Ulrichstra.beta.e 14, Bietigheim-Bissingen). (emphasis added)

2. US patent No. 6,759,500 which states in example 17,

> The tube obtained in Example 12/13 was subjected to an assessment of the odor behavior when heated. The test was carried out in accordance with the *VDA* guideline 270 (*VDA*=Verband der deutschen Automobilindustrie [Association of the German Automobile Industry]). (emphasis added)

3. US Patent No. 6.579,925 which states,

> Emission tests were conducted using headspace gas chromatography according to the procedure described in *VDA* Recommendation 277

published by the Organization of the German Automobile Industry (*VDA*). (emphasis added)

4. US Patent No. 6,350,514 which states,

> Emission tests were conducted using headspace gas chromatography according to the procedure described in *VDA* Recommendation 277 published by the Organization of the German Automobile Industry (*VDA*). (emphasis added)

5. US Patent No. 6,306,953 which states,

> Emission tests were conducted using headspace gas chromatography according to the procedure described in *VDA* Recommendation 277 published by the Organization of the German Automobile Industry (*VDA*). (emphasis added)

6. US Patent No. 6,306,940 which states,

> The formaldehyde emission from these sheets was determined after 24 h of storage using the test specification *VDA* 275. (emphasis added)

7. US Patent No. 6,132,864 which states,

> The coated substrates produced in accordance with Examples 1 and 2 showed excellent resistance values both in the *VDA* [German Automakers' Association] stone chip test (2.times.500 g at 2 bar) and in the Mercedes Benz ball shot test (*VDA*: rating 1; ball shot test: degree of rusting=0, degree of flaking: .ltoreq.2 mm.sup.2). To test the corrosion resistance, the coated substrates were scribed with a slit about 10 cm long extending down to the metal panel, and were subjected to a salt spray test in accordance with DIN 50 021. After 6 weeks no scribe creep was evident. (emphasis added)

For the above reasons this rejection should be withdrawn.

Double Patenting

Claims 1-3, 11, 12 and 14-26 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-14 of copending Application No. 10/381,501. Claims 1-3, 11, 12 and 14-26 are provisionally rejected on the

ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-14 of copending Application No. 10/381,502. Claims 1-3, 11, 12 and 14-26 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-31 of copending Application No. 10/663,290. Claims 1-3, 11, 12 and 14-26 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of Disch.

U.S. Application No. 10/381,501 was abandoned on November 4, 2004. U.S. Application No. 10/663,290 was abandoned on March 14, 2006. Since these applications are no longer pending, this rejection is not proper. The double patent rejections which would remain would be over Application No. 10/391,502 and Disch. However, the applicant does not believe that these are proper rejections for the reasons stated below.

Obviousness-type double patenting as defined is when claims in a patent application are not patentably distinguishable from claims in a patent (MPEP 804). The test applied to determine obviousness-type double patenting exists is whether or not the claims in the application define merely an obvious variation of the invention disclosed and claimed in the patent (In re Vogel and Vogel, 164 USPQ 619 (CCPA 1970). If claims are unobvious over 35 U.S.C. §103, there can be no double patenting (In re White and Langer, 160 USPQ 417 (CCPA 1969)). The Examiner refers that these claims overlap or at least encompass each other. The Examiner has apparently confused domination with double patenting. Domination occurs when a patent has a broader generic claim which reads on an invention defined by a narrower or more specific claim in another patent. Domination is not double patenting, per se. Domination is an irrelevant fact since a later invention may be validity patented though dominated by an earlier

patent (In re Kaplan, 229 USPQ 678 (CAFC 1986)). Further, the overlapping of claims is not a significant or controlling factor in obviousness-type double patenting (In re Longi et al., 225 USPQ 645 (CAFC 1985)). The proper consideration of obviousness type doubling patenting is the improper extension of the patent right. The applicants believe that these applications are patentably distinct for the reasons stated below.

Disch is directed to a different invention (a colorant concentrate) and not a colored molding composition as is required by the applicant's claimed invention.

Disch's claim 1 states:

> **A colorant concentrate** for preparing polyoxymethylene molding compsotions with reduced formaldehyde emission, made from 15-80% by weight of colorant selected from the group consisting of carbon black, inorganic pigments and organic pigments, 2-15% by weight, of a nitrogen-containing stabilizer, 0-15% by weight of dispersion aid, and to make up 100% by weight of colorant preparation, free-flowing polyoxymethylene copolymer which may, if desired, also comprise UV stabilizers and other customary additives

Claims 1-31 have been cancelled in the '502 application. Claim 32 states:

32. A colored polyoxymethylene molding composition consisting essentially of:

component (A) from 0.1 to 5.0% by weight of colorant,

component (B) from 0.01 to 0.5% by weight of a nitrogen-containing stabilizer,

component (C) from 0.05 to 1 % by weight of an ester of a polyhydric alcohol and at least one fatty acid,

component (D) from 0.001 to 0.5% by weight of a Mg salt of a fatty acid, and

component (E) up to 1.0% by weight of a metal salt of a short-chain carboxylic acid,

component (F) up to 1.0% by weight of a sterically hindered phenol compound,

component (G) up to 1.0% by weight of at least one stabilizer selected from the group consisting of benzotriazole derivatives and aromatic benzoate derivatives,

component (H) up to 0.5% by weight of a sterically hindered amine (HALS) as a light stabilizer,

component (I) polyoxymethylene polymer and, optionally up to 40% by weight of other additives, but wherein the molding composition does not comprise hydroxides or alkoxides of alkali metals or alkaline earth metals, or their salts with inorganic acids.

The '502 application requires component (C) from 0.05 to 1 % by weight of an ester of a polyhydric alcohol and at least one fatty acid, and component (D) from 0.001 to 0.5% by weight of a Mg salt of a fatty acid.

The instant application requires the formaldehyde emission, determined on test specimens in accordance with the German Automotive Industry Recommendation No. 275 (VDA 275), is not more than 20 mg/kg (see claim 1). This feature is required in all the applicant's claims except independent claim 25 and dependent claim 26. In addition, the applicant's claimed invention requires an initiator. This is not claimed in the '502 application.

However, claim 25 is narrower than claim 1 with respect to the specific ingredients, including trifluoromethanesulfonic acid and/or a derivative of trifluoromethanesulfonic acid as an initiator. This is not claimed in the '502 application. For the above reasons, this rejection should be withdrawn.

103 REJECTION

Claims 1-3, 11, 12-19 and 21-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Auerbach taken with Paul in view of Chapman, all newly cited and in view of Mück.

The object of the applicant's claimed invention was to develop colored POM molding compositions which contain a colorant and in which **the formaldehyde emission observed hitherto has been substantially reduced**, in fact, the formaldehyde emission, determined on test specimens in accordance with the German Automotive Industry Recommendation No. 275 (VDA 275), **is not more than 20 mg/kg**, without impairing the known advantageous properties of POM. (see the specification at page 3, lines 22-25).

The Examiner has stated that Auerbach teaches the use of a colorant. As the Examiner correctly cited Auerbach at the paragraph bridging col. 8 and 9,

> It is within the ambit of the present invention that the oxymethylene polymer molding composition also include, if desired,
> 1) plasticizers,
> 2) other formaldehyde scavengers,
> 3) mold lubricants,
> 4) antioxidants,
> 5) fillers,
> 6) colorants,
> 7) reinforcing agents,
> 8) light stabilizers,
> 9) pigments,
> 10) other stabilizers,
> 11) and the like, so long as such additives do not materially affect the desired properties of the resulting molding composition and the articles molded therefrom. The additional additives can be admixed at any convenient stage in the molding composition preparation, but usually are added when the oxymethylene polymer is being blended or admixed with the polyamide-carrier resin dispersion.[1]

[1] The numbers have been inserted by the applicant.

It is noted that there are 11 optional ingredients cited by Auerbach. Auerbach gives no motivation to particular select any of the optional ingredients.

As the Examiner pointed out, Paul discloses at col. 11, lines 3-21,

> The stabilized oxymethylene polymer compositions also include if desired,
> 1)plasticizers,
> 2) pigments,
> 3) lubricants and
> 4) other stabilizers, e.g.,
> 5) stabilizers against degradation by ultraviolet light,
> 6) e.g., 2,2'-dihydroxy-4,4'-dimethoxy -benzophenonone;
> 7) 2-hydroxy-4-methoxy-benzophenone;
> 8) 2-hydroxy-4-methoxyl-chlorobenzophenone,
> 9) nucleants,
> 10) UV screens and
> 11) absorbers,
> 12) metal soaps,
> 13) reinforcers and
> 14) filler such as
> 15) glass,
> 16) talc,
> 17) white mica and
> 18) gold mica,
> 19) polymeric substances such as
> 20) ethylene vinyl acetate,
> 21) polyurethanes,
> 22) impact modifiers, and
> 23) color pigments which are compatible with oxymethylene polymers, e.g.,
> 24) red pigments such as
> 25) azo dye and
> 26) cadmium sulfide-cadmium selenide reds and
> 27) "Mercadium" reds,
> 28) blue pigments such as
> 29) phthalocyanine blues,
> 30) green pigments such as
> 31) chromium oxide greens,
> 32) white pigments such as
> 33) titanium dioxide whites, and

> 34) black pigments such as
> 35) carbon blacks which can be incorporated in amounts of up to about 5% by weight, based upon the total weight of the composition.[2]

It is noted that there are 35 optional ingredients cited by Paul. Paul gives no motivation to particular select any of the optional ingredients.

Paul further discloses at col. 3, lines 28-36,

> The term oxymethylene polymer as used herein is intended to include any oxymethylene polymer having --CH_2 O-- groups comprising **at least about 50 percent of the recurring units**, for example, homopolymer, copolymers, terpolymers and the like.

Chapman describes only some pearlescent pigments for cosmetically usage (e.g. abstract). Under the heading of Description Of the Preferred Embodiments, Chapman states:

> "The present invention is particularly useful and beneficial in conjunction with pearlescent pigments which are to be incorporated in compressed **cosmetic powders**." (emphasis added)

There are no compositions described in Chapman which encompasses oxymethylene/oxyethylene copolymers. In addition, there is no indication given which kind of oxymethylene/oxyethylene copolymers has to be used for the reduction of the formaldehyde emission raised through the mixture of said copolymer with a colorant (pigment). The applicant does not believe that Chapman is related to the applicant's claimed invention or for that matter is combinable with the other references applied against the claims.

The Examiner states at the top of page 8 of the Office Action that he relies upon Mück soley to show the trifluoromethanesulfonic acid initiator. However, Mück does not disclose that

the formaldehyde emission, determined on test specimens in accordance with the German Automotive Industry Recommendation No. 275 (VDA 275), is not more than 20 mg/kg (see independent claim 1).

The Examiner argues at the middle of page 8 of the Office Action that the low level of formaldehyde emission is inherent. However, the applicant respectfully disagrees. In a second step, a colorant is added to these polyoxymethylenes to form a colored composition with a low formaldehyde emission level. However, it is important to understand that the addition of a colorant usually leads to an increased destruction of the polyoxymethlene and following to an increased emission of formaldehyde. In the state of the art, the increased formaldehyde emission is reduced by addition of N-containing compounds (see for example Kosinsiki). In view of the present invention it was unexpectedly found that such an increase of emitted formaldehyde occurred by adding a colorant can be avoided respectively reduced if the specific prepared polyoxymethylenes are used. So the argument of the Examiner is to simple that only a polyoxymethylene with a low emission level of formaldehyde is used to prepare a colored polyoxymethylene composition which shows also a low formaldehyde emission. In contrast thereto it was not obvious that the colored, specific prepared polyoxymethylenes shows a reasonable lower increase of formaldehyde emission compared with other polyoxymethylenes prepared with other methods after coloration.

The oxymethylene/oxyethylene copolymers can be prepared with several alternative initiators (e.g. with Lewis acids, see Mück column 1 lines 35-39). There is no evidence in Mück that copolymers containing oxymethylene and oxyethylene units and a colorant (pigment) leads

[2] The numbers have been inserted by the applicant.

to an increased formaldehyde emission and that this emission can be reduced by mixing specific prepared copolymers (with a strong protonic acid) with the colorant (pigment). For example, the preparation of the copolymers with Lewis acids (described in Mück) leads to a higher formaldehyde emission (see e.g., the present application, in particular the comparative examples, wherein the copolymer is prepared with BF_3 (page 8 line 1, results page 10 table 1)).

In the state of the art the use of N-containing stabilizers are known to increase e.g. light or melt stability (e.g. Kosinski, see page 6, line 4-19). Surprisingly, oxymethylene-oxyethylene copolymers prepared with a specific method (with strong protonic acids as initiator) leads to a low formaldehyde emission level if a colorant is added. There is NO indication in Auerbach, Paul, Mück, nor Chapman that this specific combination (oxymethylene-oxyethylene copolymers in accordance with claim 1 and a colorant) to get colored copolymers results in a low emission level of formaldehyde, in particular, formaldehyde emission, determined on test specimens in accordance with the German Automotive Industry Recommendation No. 275 (VDA 275), is not more than 20 mg/kg.

Further a person of ordinary skill in the art couldn't find any evidence in to prepare copolymers containing oxymethylene and oxyethylene units mixed with a colorant (pigment), wherein the copolymer is prepared with a strong protonic acid to reduce the formaldehyde emission of the resulting colored copolymer compound.

The Examiner must consider the references as a whole, In re Yates, 211 USPQ 1149 (CCPA 1981). The Examiner cannot selectively pick and choose from the disclosed multitude of parameters **without any direction** as to the particular one selection of the reference **without proper motivation**. The mere fact that the prior art may be modified to reflect features of the

claimed invention does not make modification, and hence claimed invention, obvious **unless the prior art suggested the desirability of such modification** (In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984); In re Baird, 29 USPQ 2d 1550 (CAFC 1994) and In re Fritch, 23 USPQ 2nd. 1780 (Fed. Cir. 1992)). In re Gorman, 933 F.2d 982, 987; 18 USPQ2d 1885, 1888 (Fed. Cir. 1991) (in a determination under 35 U.S.C. § 103 it is impermissible to simply engage in a hindsight reconstruction of the claimed invention; the references themselves must provide some teaching whereby the applicant's combination would have been obvious); In re Dow Chemical Co., 837 F.2d 469,473, 5 USPQ2d 1529, 1531 (Fed. Cir. 1988) (under 35 U.S.C. § 103, both the suggestion and the expectation of success must be founded in the prior art, not in the applicant's disclosure). The applicants disagree with the Examiner why one skilled in the art with the knowledge of the references would selectively modify the references in order to arrive at the applicants' claimed invention. The Examiner's argument is clearly based on hindsight reconstruction.

Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching, suggestion, or incentive supporting this combination, although it may have been obvious to try various combinations of teachings of the prior art references to achieve the applicant's claimed invention, such evidence does not establish prima facie case of obviousness (In re Geiger, 2 USPQ 2d. 1276 (Fed. Cir. 1987)). There would be no reason for one skilled in the art to combine Auerbach taken with Paul in view of Chapman and Mück. For the above reasons, this rejection should be withdrawn.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

A one month extension has been paid. Applicant believes no additional fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 03-2775, under Order No. 05587-00327-US from which the undersigned is authorized to draw.

Respectfully submitted,

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